

IN THE CLAIMS

Claims 1 – 40 (Canceled)

41. (Currently amended) ~~The system of Claim 37,~~ A home treatment system for the treatment of a tooth comprising:

a fluoride mixture for application to the tooth, wherein said fluoride mixture has a consistency of a gel or a paste;

a light source which produces wavelengths in the range of between about 400 nm to about 750 nm,

wherein said light source is adapted to bind at least a portion of the fluoride mixture to at least a portion of the tooth; and

wherein said light source has an energy density adapted to reduce or minimize structural damage to the tooth; and

wherein said fluoride mixture comprises fluoride at a concentration in the range of about 0.002 ppm fluoride to about 45 ppm fluoride.

42. (Currently amended) ~~The system of Claim 37,~~ A home treatment system for the treatment of a tooth comprising:

a fluoride mixture for application to the tooth, wherein said fluoride mixture has a consistency of a gel or a paste;

a light source which produces wavelengths in the range of between about 400 nm to about 750 nm,

wherein said light source is adapted to bind at least a portion of the fluoride mixture to at least a portion of the tooth; and

wherein said light source has an energy density adapted to reduce or minimize structural damage to the tooth; and

wherein said ~~viscous~~ fluoride mixture comprises fluoride at a concentration of about 1 ppm fluoride.

43. (Currently amended) ~~The system of Claim 37,~~ A home treatment system for the treatment of a tooth comprising:

a fluoride mixture for application to the tooth, wherein said fluoride mixture has a consistency of a gel or a paste;

Appl. No. : 10/039,291
Filed : January 3, 2002

a light source which produces wavelengths in the range of between about 400 nm to about 750 nm,

wherein said light source is adapted to bind the viscous fluoride mixture to at least a portion of the tooth; and

wherein said light source has an energy density adapted to reduce or minimize structural damage to the tooth; and

wherein said ~~viscous~~-fluoride mixture comprises fluoride at a concentration of about 0.01%.

44. (Currently amended) The system of Claim 37 41, wherein said ~~viscous~~ fluoride mixture is a gel or a paste.

45. (Currently amended) The system of Claim 37 41, further comprising a fluoride maintenance source, wherein said fluoride maintenance source is selected from the group consisting of one or more of the following: a fluoride mouthwash, a fluoride patch, and a fluoride toothpaste.

46. (Currently amended) The system of Claim 37 41, wherein said light source is adapted to bind the ~~viscous~~-fluoride mixture to at least a portion of the tooth by illuminating the ~~viscous~~-fluoride mixture while said ~~viscous~~-fluoride mixture is positioned on the tooth.

47. (Currently amended) The system of Claim 37 41, wherein said light source is adapted to bind the ~~viscous~~-fluoride mixture by chemically modifying the tooth to facilitate binding of said ~~viscous~~-fluoride mixture.

48. (Currently amended) The system of Claim 47, wherein said chemical modification occurs prior to application of the ~~viscous~~-fluoride mixture to the tooth.

49. (Currently amended) The system of Claim 37 41, wherein said light source is adapted to facilitate subsurface penetration of fluoride.

50. (Canceled)

51. (Currently amended) The system of Claim 37 41, wherein said light source is adapted to heat the tooth to a temperature of less than about 250°C.

52. (Currently amended) The system of Claim 37 41, wherein said light source is adapted to provide an energy density of less than about 65 J/cm².

53. (Currently amended) The system of Claim 37 41, wherein said light source is adapted to provide an energy density of less than about 30 J/cm².

54. (Currently amended) The system of Claim ~~37~~ 41, wherein said light source is adapted to provide an energy density of less than about 12 J/cm^2 .

55. (New) The method of Claim 41, wherein said light source is a coherent light source.

56. (New) The system of Claim 55, wherein said coherent light source is a laser.

57. (New) The system of Claim 56, wherein said laser is an argon laser.

58. (New) The system of Claim 56, wherein said laser comprises a diode laser.

59. (New) The system of Claim 58, wherein the wavelength of said diode laser is selected from the group consisting of one or more of the following: red, green, blue, and yellow.

60. (New) The system of Claim 41, wherein said light source is a noncoherent light source.

61. (New) The system of Claim 55, wherein said noncoherent light source is an LED.

62. (New) The system of Claim 55, wherein said noncoherent light source has a wavelength selected from the group consisting of one or more of the following: green, blue, yellow, and red.

63. (New) A home treatment system for the treatment of a tooth comprising:
a fluoride mixture for application to the tooth, wherein the fluoride mixture is a gel or a paste;
a light source which produces wavelengths in the range of between about 400 nm to about 750 nm,

wherein said light source is adapted to bind the fluoride mixture to at least a portion of the tooth; and

wherein said light source has an energy density adapted to reduce or minimize structural damage to the tooth; and

wherein said fluoride mixture comprises fluoride at a concentration in the range of about 0.002 ppm fluoride to about 45 ppm fluoride.